

1 <sup>22</sup>  
49. (New) A method to calibrate imager device responses,  
2 comprising:  
3 presenting a plurality of light radiating sources;  
4 producing a first set of responses based the plurality of  
5 light radiating sources;  
6 producing a second set of responses by exposing an imager  
7 device to the plurality of light radiating sources; and  
8 determining calibrating coefficients from the first set of  
9 responses and the second set of responses.

1 <sup>23</sup>  
50. (New) The method of claim 49, wherein presenting a  
2 plurality of light radiating sources includes presenting three to  
3 more than five light emitting diodes, wherein each light emitting  
4 diode includes a different spectral radiation characteristic  
5 within the spectral sensitivity of the human visual system.

1 <sup>24</sup>  
51. (New) The method of claim 50, wherein presenting three to  
2 more than five light emitting diodes includes presenting five  
3 light emitting diodes having the peak wavelengths of 430nm, 470nm,  
4 545nm, 590nm, and 660nm, respectively.

1 <sup>25</sup>  
52. (New) The method of claim 49 wherein producing the first  
2 set of responses includes mapping the first set of responses as  
3 red, green, and blue values into a plurality of XYZ tristimulus  
4 values.

26

1 53. (New) The method of claim 49 wherein producing the first  
2 set of responses based on the plurality of light radiating sources  
3 includes exposing a spectrophotometer to the plurality of light  
4 radiating sources.

27

1 54. (New) The method of claim 49 wherein exposing the imager  
2 device to the plurality of light radiating sources includes  
3 illuminating the imager device sequentially with each of the light  
4 radiating sources.

28

1 55. (New) A method to calibrate an imager device, comprising:  
2 (i) presenting a plurality N of imager devices, where N  
3 represents a predetermined number of imager devices;  
4 (ii) exposing the first (N=1) imager device to a target to  
5 produce a first set of target results;  
6 (iii) calculating a first set of calibrating coefficients  
7 from the first set of target results;  
8 (iv) exposing the first imager device to a plurality of light  
9 radiation sources to produce a first set of source results,  
10 wherein the first set of calibrating coefficients and the first  
11 set of source results form a pair of results;  
12 (v) repeating steps (ii) through (iv) N-1 times by employing  
13 a different imager device during each repeat of steps (ii) through  
14 (iv); and  
15 (vi) determining the correlation between the plurality N of  
16 imager devices by using each pair results.

pull  
126

an

29

1 56. (New) The method of claim 55 wherein exposing the first  
2 (N=1) imager device to a target includes presenting a target that  
3 represents the spectral sensitivity of the human visual system.

30

1 57. (New) The method of claim 56 wherein presenting a target  
2 that represents the spectral sensitivity of the human visual  
3 system includes presenting a Macbeth Colorchecker® color rendition  
4 chart.

31

1 58. (New) The method of claim 55, each light radiation source  
2 having a different spectral radiation characteristics, wherein  
3 exposing the first imager device to a plurality of light radiation  
4 sources includes radiating a series of lights from the plurality  
5 of light radiation sources.

32

1 59. (New) The method of claim 55, wherein exposing the first  
2 imager device to a plurality of light radiation sources includes  
3 presenting five light emitting diodes having the peak wavelengths  
4 of 430nm, 470nm, 545nm, 590nm, and 660nm, respectively.

33

1 60. (New) The method of claim 55, wherein determining the  
2 correlation between the plurality N of imager devices by using  
3 each pair results includes employing polynomial regression.

34

1 61. (New) The method of claim 55, wherein determining the  
2 correlation between the plurality N of imager devices by using  
3 each pair results includes deriving a unique set of correlation  
4 coefficients for each set of calibrating coefficients.

35

1 62. (New) The method of claim 61, wherein deriving a unique  
2 set of correlation coefficients for each set of calibrating  
3 coefficients includes employing a statistics analysis program.

36

1 63. (New) An image product produced by the process of claim  
2 39, the process further comprising:  
3 exposing an imager device to light reflecting off of an  
4 object to produce a set of object responses; and  
5 applying the correlation coefficients to the set of object  
6 responses to produce the image product.

37

1 64. (New) A method to simulate at least one target color,  
2 comprising:  
3 presenting means for radiating light;  
4 producing a set of responses by exposing one of an imager  
5 device and a spectrophotometer to the means for radiating light;  
6 presenting a target having at least one target color, the at  
7 least one target color having a reflection wavelength;  
8 representing the reflection wavelength as a value; and  
9 determining at least one weighing factor from the set of  
10 responses and the value of the at least one target color.

38

1 65. (New) The method of claim 64, wherein presenting means  
2 for radiating light includes presenting a plurality of light  
3 radiating sources.

rule  
1.126  
a17

39

1 ~~66~~. (New) The method of claim 65, wherein presenting a  
2 plurality of light radiating sources includes presenting three to  
3 more than five light emitting diodes, wherein each light emitting  
4 diode includes a different spectral radiation characteristic.

40

1 ~~67~~. (New) The method of claim 66, wherein presenting three to  
2 more than five light emitting diodes includes presenting five  
3 light emitting diodes having the peak wavelengths of 430nm, 470nm,  
4 545nm, 590nm, and 660nm, respectively.

41

1 ~~68~~. (New) The method of claim 64 wherein presenting a target  
2 includes presenting a target that represents the spectral  
3 sensitivity of the human visual system.

Page  
1-24

42

1 ~~69~~. (New) The method of claim 68 wherein presenting a target  
2 that represents the spectral sensitivity of the human visual  
3 system includes presenting a Macbeth Colorchecker® color rendition  
4 chart.

917

43

1 ~~70~~. (New) The method of claim 64 wherein producing a set of  
2 responses includes determining a radiating set of XYZ tristimulus  
3 values for the means for radiating light, wherein presenting a  
4 target having at least one target color includes presenting a  
5 target having twenty four colors, each color of the target having  
6 a reflection wavelength, wherein representing the reflection  
7 wavelength as a value includes determining a reflecting set of XYZ  
8 tristimulus values for the twenty four colors.